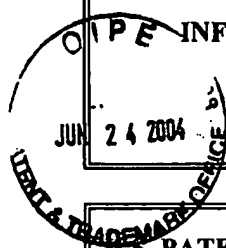



<b>FORM PTO-1449</b>  <b>INFORMATION DISCLOSURE CITATION</b> <b>IN AN APPLICATION</b> <i>(Use several sheets if necessary)</i>	Docket Number (Optional) 3251378.0004	Application Number 10/687,761
	Applicant Zarook M. Shareefdeen et al.	
	Filing Date October 20, 2003	Group Art Unit 1744



U.S. PATENT DOCUMENTS						
EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS							
	DOCUMENT NUMBER	DATE dd/mm/yy	COUNTRY	CLASS	SUB-CLASS	TRANSLATION	
						YES	NO
NAB	0 497 214	09/08/95	EP				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
NAB		Allen, E.R. and Yang, Y., "Biofiltration: An Air Pollution Control Technology for Hydrogen Sulfide Emissions", Industrial Environmental Chemistry, NY, 1992, pp 273-287.
		Chung, Y-C et al., "Comparison of Autotrophic and Mixotrophic Biofilters for Hydrogen Sulfide Removal", J. of Env. Engineering, April 1998, pp 362-367.
NAB		Chung, Y-C et al., "Biodegradation of Hydrogen Sulfide by a Laboratory Scale Immobilized Pseudomonas Putida CH11 Biofilter", Biotech. Progress, 12, 1996, pp 773-778
		Shareefdeen et al. "Biofiltration of Nuisance Sulfur Gaseous Odors from a Meat Rendering Plant", J of Chemical Technology and Biotechnology, 77:1296-1299, 2002
NAB		Yang, Y. and Allen, E.R., part 1 "Biofiltration Control of Hydrogen Sulfide 1. Design and Operational Parameters, J. Air & Waste Manage. Assoc., 44, 863-868, 1994.
		Yang, Y. and Allen, E.R., "Biofiltration Control of Hydrogen Sulphide. 2. Kinetics, Biofilter performance and maintenance", J. Air & Waste Manage. Assoc., 44 (November):1315-1321, 1994.
EXAMINER: 		DATE CONSIDERED: 3/21/06
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.		

FORM PTO-1449 <b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b> <i>(Use several sheets if necessary)</i>	Docket Number (Optional) 225335.00004	Application Number 10/687,761
	Applicant Zarook M. Shareefdeen et al.	
	Filing Date October 20, 2003	Group Art Unit 1744

U.S. PATENT DOCUMENTS						
EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
NAB	5,206,206	Ap. 27, 1993	Buelna et al			
	5,232,676	Aug. 3, 1993	Wolff et al			
	5,534,154	Jul. 9, 1996	Gillham			
	5,747,331	May 5, 1998	Hartikainen et al			
	5,855,797	Jan. 5, 1999	Luong et al			
	5,869,323	Feb. 9, 1999	Horn			
	5,981,272	Nov. 9, 1999	Chang			
	6,019,810	Feb. 1, 2000	Phillips et al.			
	6,056,934	May 2, 2000	Carlsen et al			
	6,271,020	Aug. 7, 2001	Coleman			
	6,358,729	Mar. 19, 2002	Ferranti			

FOREIGN PATENT DOCUMENTS							
	DOCUMENT NUMBER	DATE dd/mm/yy	COUNTRY	CLASS	SUB-CLASS	TRANSLATION	
						YES	NO
NAB	0 414 095 B2	Aug. 14, 1990	EP				
NAB	0 497 214 B1	Jan 1, 1992	EP				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
NAB		Aroca, G., Oyarzun, P. and Nunez, D., "Removal of Hydrogen Sulphide in a Biotrickling Filter", 2002 USC-TRG Conference on Biofiltration Proceedings, Newport Beach, CA, pp. 139-146, October 31 - November 1, 2002
		Cadenhead P. C. and K. L. Sublette, "Oxidation of Hydrogen Sulfide by Thiobacilli", <i>Biotechnology and Bioengineering</i> , Vol. 35, pp 1150-1154, 1990.
NAB		Cho et al., "Degradation Characteristics of Hydrogen Sulfide, Methanethiol, Dimethyl Sulfide, and Dimethyl Disulfide by <i>Thiobacillus thio-parus</i> DW44 Isolated from Peat Biofilter", <i>Journal of Fermentation and Bioengineering</i> , Vol. 71, No. 6, 384-389, 1991.
EXAMINER	DATE CONSIDERED: 3/20/06	

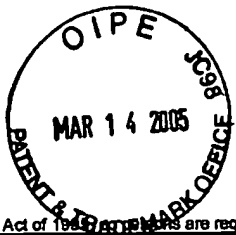
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<b>FORM PTO-1449</b>  <b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b> <i>(Use several sheets if necessary)</i>	<b>Docket Number (Optional)</b> 225335.00004	<b>Application Number</b> 10/687,761
<b>Applicant</b> Zarqok M. Shareefdeen et al.		
<b>Filing Date</b> October 20, 2003		<b>Group Art Unit</b> 1744

U.S. PATENT DOCUMENTS						
EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS							
	DOCUMENT NUMBER	DATE dd/mm/yy	COUNTRY	CLASS	SUB-CLASS	TRANSLATION	
						YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
NAB		Cho <i>et al.</i> , "Enhanced Removability of Odorous Sulfur-Containing Gases by Mixed Cultures of Purified Bacteria from Peat Biofilters", <i>Journal of Fermentation and Bioengineering</i> , Vol. 73, No. 3, pp 219-224, 1992.
		Cioci, F., Lavecchia, R. and Ferranti, M. M. "High-Performance microbial removal of ethanol from contaminated air", web <a href="http://www.corain.it">www.corain.it</a>
		Devinny, J.S. Deshusses, M. A., Webster, T. S., "Biofiltration for Air Pollution Control", Lewis Publishers, NY, Chapter 6, pp 111-139, 1999.
		Ottengraf, S. P. P. and Van Den Oever, A. H. C., "Kinetics of Organic Compound Removal from Waste Gases with a Biological Filter" <i>Biotechnology and Bioengineering</i> , Vol XXV, pp 3089-3102, 1983
		Park, S-J, <i>et al</i> "Removability of Malodorous Gases from a Night Soil Treatment Plant by a Pilot-Scale Peat Biofilter Inoculated with <i>Thiobacillus thioparus</i> DW44", <i>Journal of Fermentation and Bioengineering</i> , Vol. 76, No. 1, 55-59, 1993.
		Pol, A. <i>et al.</i> "Isolation of dimethylsulfide-utilizing <i>Hyphomicrobium</i> species and its application in biofiltration of polluted air", <i>Biodegradation</i> , Vol. 5, 105-112, 1994.
		Smet, E. <i>et al.</i> , "Isobutyraldehyde as a competitor of the dimethyl sulphide degrading activity in biofilters" <i>Biodegradation</i> , Vol. 8, pp. 53-59, 1997.
		Sologar, V.C., Z. Lu and G. Allen, "Modeling the Biofiltration of Air Emissions Containing Reduced Sulphur Compounds (RSCs) and Volatile Organic Compounds (VOCs)", 2002 USC-TRG conference on Biofiltration, October 31 and November 1, 2002, Newport Beach, CA, pp 167-177, 2002.
		Treybal, R.E. Mass-Transfer Operations, McGraw Hill, London, Chapter 11, pp 565-575 (1981)
		Ying-Chien Chung <i>et al</i> , "Comparison of Autotrophic and Mixotrophic Biofilters for Hydrogen Sulfide Removal", <i>Journal of Environmental Engineering</i> , April 1998.
EXAMINER:		DATE CONSIDERED:
[Signature]		3/20/06



PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 2

**Complete if Known**

Application Number	10/687,761
Filing Date	10/20/2003
First Named Inventor	Zarook SHAREEFDEEN
Art Unit	1744
Examiner Name	
Attorney Docket Number	225335.00004

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
NAB		US- 5,869,323	02-09-1999	Horn	
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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
NAB		CA 2,211,564	01-18-1999	Heitz et al		
NAB		CA 2,424,515	04-11-2002	McGregor et al		
NAB		EP 0 497 214 A1	08-05-1992	Fattinger		

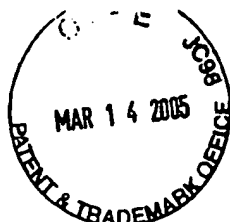
Examiner Signature		Date Considered	3/20/06
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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/687,761
		Filing Date	10/20/2003
		First Named Inventor	Zarook SHAREEFDEEN
		Art Unit	1744
		Examiner Name	
Sheet 2	of 2	Attorney Docket Number	225335.00004

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
NAB		Copy of International Search Report dated February 25, 2005 prepared by the the Canadian Patent Office in its capacity as International Searching Authority,	
NAB		in connection with International PCT Application No. PCT/CA2004/001835.	

Examiner Signature	<i>W. H. Brown</i>	Date Considered	3/20/06
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